

The Mining Journal

RAILWAY AND COMMERCIAL GAZETTE

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

No. 387. --VOL. XIII.]

London : SATURDAY, JANUARY 21, 1843.

[PRICE 6D.

MAESTEG IRON-WORKS AND MARGAM TIN PLATE WORKS, Glamorganshire.—These two important works, now in actual operation, will be OFFERED FOR SALE, BY AUCTION (unless in the meantime disposed of by private contract), in the month of February next. The Maesteg Works consist of TWO BLAST FURNACES, with STEAM-ENGINE, of 45-horse power, have an ample supply of IRON ORE and COAL, extending under 200 acres of land.—The Margam Tin Plate Works are adapted to the make of 600 BOXES TIN PLATES per week; the water-power is considerable; the whole of the machinery is in good working order. The present machinery is applicable also to the ROLLING of METALS of every description.

Full particulars, and due notice, will be given of the time and place of sale, means time the works may be viewed, and any information respecting them obtained, on application to Mr. David Rowland, solicitor, White Lion-court, Cornhill, London, and Mr. William Llewellyn, solicitor, Neath.

COLLIERY, IRONSTONE, IRON-WORK, and FOUNDRY in Chackmannshire.—TO BE LET, with entry at the term of Whitstable next, on the VALUABLE COAL-FIELD of NORTH SAUCIE, near Alton, at present in the possession of the Devon Iron Company. This coal has been wrought for the last forty years, in connection with the Iron-Works at Devon, and is particularly well adapted for the manufacture of iron. The present workings are confined to two seams—the upper five-foot and nine foot; but there is an extensive field of the lower five-foot seam to work, and the split coal in the property is untouched, both of which could be obtained by sinking down the existing pits at an inconsiderable expense; besides these, there are other workable seams in the coal-field still unworked. The machinery, stonks, and workmen's houses will be delivered over to the tenant. If required by the tenant offering for the North Sauchie Colliery, arrangements could be made with the Devon Iron Company for obtaining possession at the term of Whitstable of the ironstone, and of the iron-work and foundry, at present occupied by them. In this case, either a lease or a permanent fee-right will be given to the ground on which the iron-works are situated, and the leases of the coal and ironstone will be granted for such a number of years as may be agreed on. The ironstone supplies a considerable quantity of the material used by the present company, and the works being well situated for the making of iron, as well as for foundry purposes, could be considerably extended.

For full particulars apply to Robert Jameson, Esq., at Alton; or to James L. Mitchell, W.E., S. Randolph Cliff—both of whom will show the working plans of the coal and ironstone.—Edinburgh, Jan. 11.

FOR SALE, by PRIVATE CONTRACT, on the ROSEWALL-HILL MINE, one and a half mile from St. Ives, in Cornwall, THREE STEAM-ENGINES, all new only three years ago, No. 1, a 36-inch cylinder PUMPING-ENGINE, 9-feet stroke in the cylinder and 7-feet in the pump, with all wood work complete, including doors and windows and flat piece of connecting-rod; No. 2, a STAMPING-ENGINE, on Sims's combined cylinder principle—4-horse power per hour; No. 3, a WINDING-ENGINE, 70-inch, double power, Boulton and Watt engine—8-feet stroke, with winding apparatus (iron) complete. The whole of these engines are on the most modern construction, made of the best material and workmanship; are only one and a half mile from a good shipping port, and may be had very cheap.—Application to be made to Mr. Nicholas Tredick, of Camborne, or Mr. James Sims, engineer, at Redruth; or to Mr. English, 25, Fleet-street, London. Redruth, Dec. 8.

FOR SALE, SIX LOCOMOTIVE ENGINES, well worthy the attention of Railway Companies, Contractors for Earth Cutting, or Coal Owners.—For particulars apply to Timothy Hackworth, Soho Engine-Works, Shildon, Durham.—Dec. 28.

TO BE SOLD, CHEAP, TWO very COMPLETE SETS of HOT-BLAST PIPES.—Apply to the Yatalyfera Iron Company.

PROFITABLE INVESTMENT.—TO BE LET, ON LEASE, a VALUABLE FREEHOLD SLATE QUARRY, four miles from the shipping port. It produces slabs, of a splendid blue colour, fifteen feet long, with natural joints. There is abundance of water-power, and the ground to the shipping port is singularly favourable for a tramroad, with every facility for carrying on the works upon large scale.—For further particulars address (post paid) to "J. S." at Mr. Clark's, bookseller, Pinch-lane, Cornhill.

LEAD MINES.—TO BE LET, for a term of years, and entered on the 1st of March next, the well known HURST LEAD MINE, in the North Riding of Yorkshire. The Hurst Mines form an important portion of the celebrated mining district of Swaledale and Arkendale. The veins are a continuation of those of the A. D. and C. E. Mines, and are now in full work. The average produce, during the last sixteen years, has been 6000 pigs per annum, or an aggregate of 96,000. The iron, wood, and implements may be taken at a fair valuation. Further particulars may be known on application to Francis Morley, Esq., Marwick-park; John Harland, Esq., Marwick; or Mr. Thomas Blenckiron, the agent at the mine.—Jan. 10.

FOR SALE, BY CONTRACT, ONE SHARE, or ONE HUNDREDTH PART, in GOGINAN MINE, in Cardiganshire.—This is one of the richest mines in the Principality; it is about seven miles from the shipping port and watering place of Aberystwyth. The profits are considerable, with every prospect of their being increased; the ore ground is nearly a quarter of a mile in length, and every fathom that has been taken away has yielded upwards of 24-lbs. worth of silver and lead, and there is, now strained, at twenty fathoms under the drift, upwards of £1,000 worth of ore.—The returns for the present year have been 200 tons per month.—Applications for price to be made to the Editor of this Journal, Fleet-street, London.

FOR SALE, TWO ONE-HUNDREDTH SHARES in the GOGERDDAN MINES, comprising the Big Mine, Darwen, and Cwmsyming, the celebrated mine from which Sir Hugh Middleton made immense profits. The present workings have just reached about ten fathoms under the old mine, which is very extensive, and promise to yield out of immediate profit.—Application to Mr. English, 25, Fleet-street, London.

TO IRONMASTERS.—The advertiser, having had extensive practice in the Iron Trade of a general character, and who, during each period, has had every opportunity of making himself fully acquainted with the various operations requisite for the manufacturing department, (as well as official duties and correspondence,) would be glad to ENLIST with some RESPECTABLE FIRM as AGENT in the above capacity; highly respectable references can be given if required. Address, post paid, "B. H." care of the Editor of the Mining Journal, Fleet-street, London.

TO HEMP AND WIRE ROPE MANUFACTURERS.—WANTED, for the Derwent Iron Company's Railway, A ROPE, 36 inches in circumference, and about 212 yards in length; also a FLAT ROPE, six inches in width, and of proportionate thickness, and about 144 yards in length. The PRICE, both per cwt. and per yard, must be STATED IN THE TENDER, and as the dimensions given are singly sufficient for the duty required, the company reserve the power of rejecting any rope which, after being in use two months, may appear to them of inferior quality.—Tenders must be sent in to the Bishop Works—Bishop Works, Sunderland, before the 21st January. Sunderland, Jan. 18.

THE PATENT SAFETY FUSE, FOR BLASTING ROCKS IN MINES, QUARRIES, AND FOR SUBMARINE OPERATIONS.—This article affords the safest, cheapest, and most expeditious mode of effecting this very hazardous operation. From many testimonies to its usefulness, which the Manufacturee has been favoured from every part of the kingdom, they select the following letter, recently received from John Taylor, Esq., F.R.S. &c. &c.

I am very glad to hear that my recommendations have been of any service to you. They have been given from a thorough conviction of the great importance of the Safety Fuse; and I am quite willing that you should employ my name as evidence of this.

Manufactured and sold by the Patentee, BUCKFORD, BIRMINGHAM, and DALEYS, Camborne, Cornwall.

IMPORTANT PATENT IMPROVEMENT IN CHRONOMETERS AND WATCHES.—E. J. DENT, M. STRAND, who obtained the high distinction of receiving the Government reward for the improved performance of his local chronometer over submitted to twelve masters' possible trial, begs to acquaint the public that the MANUFACTURE of his WATCHES, CHRONOMETERS and CLOCKS, is RETURNED to him by THREE SEPARATE FAUNTS, respectively granted by 1806, 1808, and 1817.—Silver Lever Watch, Jewelled in four lines, 40/- each; in gold cases from 40/- to 42/- each.—Gold Horizontal Watch, with gold dial, from 40/- to 42/- each.—Dent's "Apparatus" to his recent work ditto "Time-keepers," is now ready for circulation.

OFFICE FOR PATENTS OF INVENTIONS AND REGISTRATION OF DESIGNS.—14, LINCOLN'S-INN FIELDS.—Inventors and Manufacturers are informed, that all business relating to the securing and disposing of INVENTION and FOREIGN PATENTS, Preparation of Specifications, and Drawings, of Inventions, is expeditiously and conveniently effected. Also Registrations under the new Consolidated Copyright of Designs Act, 1801 & 1802, cap. 146.—A printed book, containing much useful information, may be obtained, add reference to an alphabetical list of patents and registrations made, no opposition to.

Mr. ALEXANDER PRUCE, 14, Lincoln's-Inn Fields.

ANTHRACITE IRON.—CRANE'S PATENT.—TERMS FOR LICENSEES FOR SMELTING IRON, BY THE COMBINATION OF ANTHRACITE AND HEATED AIR, MAY BE HAD BY APPLICATION TO THE SOLICITORS OF THE PATENTEE, MESSRS. WATKINS AND HOOPER, II, SACKVILLE-STREET, LONDON.

By the use of this process, it is believed that the whole of the veins of anthracite in the South Welsh Basin, amounting in the aggregate to 2½ feet in thickness, are applicable to the purpose; all those above, and including the brash vein being nearly 40 feet of the whole, have been successfully used by the patentee, at Ynysedwyrn Iron Works, near Swansea.

The consumption of anthracite in the smelting process, has varied from 27 to 34 cwt. per ton of iron, according to the vein in use.

To heat the blast, the average consumption has been from 7 to 9 cwt. of inferior coal and culm.

With respect to the strength of HOT-BLAST Anthracite Iron, the public are referred to the short-hand writer's report of the evidence given on the trial in the Common Pleas, Feb. 11, 1840, in the cause, "Crane v. Price."

Folio 32.—Mr. David Musket deposed, that he had taken a similar series of bars to those described and made use of by Mr. Treigold, for which no work upon the subject; the same sized bars of remelted COLD-BLAST CAST-IRON, which would only support 175 lbs., required 200 lbs. to break them, when cast with remelted HOT-BLAST ANTHRACITE IRON.

Folio 77 and 78.—Mr. George Cottam stated in his evidence, that, with bars four feet between the supports, and one inch square, the following had been the result of his experiments:

Remelted COLD-BLAST IRON broke at 400 lbs. to 445 lbs.

Remelted HOT-BLAST ANTHRACITE IRON broke at 500 lbs.

From Mr. G. Cottam's evidence likewise with respect to the extraordinary strength of hot-blast anthracite iron, in the same document.

The last experiment tried at the Ynysedwyrn Iron Works, which was in the present year, with 1-inch bars, 4 ft. 6 in. between the supports, cast directly from the hot-blast anthracite furnace No. 1, gave the following breaking weights—Lbs. 682, 710, 682, 682, 684, 707, 686, 687—mean, 674½ lbs.

Ynysedwyrn Iron Works, Swansea Valley, November 24, 1842.

(Signed) "DAVID MUSKET."

The following comparisons are drawn from Mr. Musket's trials and report:

Yatalyfera cold-blast anthracite iron, as cast from the furnace, is 26.5-lbs per cent. stronger than the Ynysedwyrn hot-blast iron, made with a mixture of coke and anthracite. It is stronger than the Ynysedwyrn hot-blast iron, made with anthracite alone, by 22 per cent. The Yatalyfera cold-blast anthracite iron, remelted in copals, was found stronger than Mr. Musket's results on the Ynysedwyrn hot-blast iron, remelted in copals, by 27.1-lbs per cent. The Yatalyfera cold-blast anthracite iron, from the furnace, surpassed Treigold's average of remelted iron by 24 per cent. When remelted in the air furnace it surpassed Treigold's average by 36 per cent. When remelted in cupola, with anthracite, it surpassed Treigold's average by 36 per cent. Mr. Musket's results on the Yatalyfera cold-blast iron, compared with the extensive series of most able experiments made by Mr. Richard Evans, on their hot-blast iron, are as follows:—Cold-blast iron, remelted in cupola, superior to hot-blast remelted, in strength, 22.5-lbs per cent.; in definition, 24.5-lbs per cent.; in power to resist impact, 34 per cent. As compared with Mr. Fairbairn's well-known table of results on cast iron, the Yatalyfera cold-blast anthracite iron was found superior to Fairbairn's hot-blast iron trials, in strength, 44.7-lbs per cent.; in definition, 24.6-lbs per cent.; in power to resist impact, 79 per cent. To Fairbairn's cold-blast iron trials it was found superior, in strength, 44.7-lbs per cent.; in definition, 19.8-lbs per cent.; in power to resist impact, 58.5-lbs per cent.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

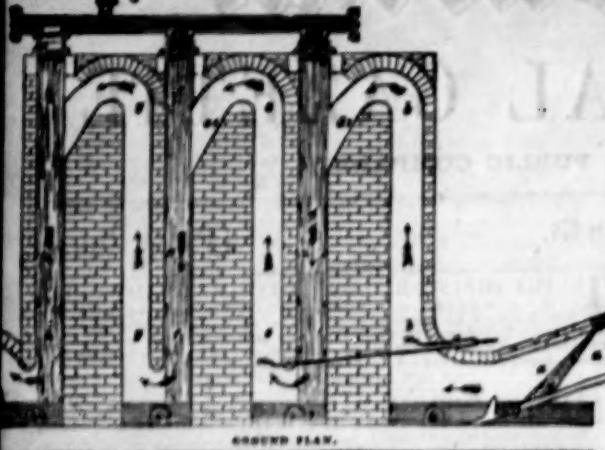
Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials were made with 100 lbs. of coke to 100 lbs. of anthracite.

Mr. Fairbairn's cold-blast iron trials

HEDLEY AND RODHAM'S IMPROVEMENT FLUES,
FOR CONDENSING AND PURIFYING NOXIOUS SMOKE AND GASES, AND
FOR ARRESTING THE FUMES OF IRON AND COPPER ORE, &c., &c.

Description of the drawing, from the specification enclosed:



GROUND PLAN.

The drawing represents the action and plan of improved flues, constructed according to our invention, and it will be seen to consist of a series of ascending and descending flues, connected with each other as hereinafter explained. The gases, smoke, and fume arising from one or more fires, stoves, or furnaces, are made to pass through these flues, and then (the purified products) evolve from the chimney or other vent; and the flues so arranged, that streams or showers of water are caused to descend and mix with the gases, smoke, and fumes in the descending flues, by which means the gases, smoke, and fumes are washed and forced downwards. In the ascending flues no water is applied, consequently the gases, smoke, and fumes freely ascend, without any interruption, which they would not do if they were opposed by water falling upon them in their upward course. And it will be seen that the descending flues are placed far apart from the ascending flues as to leave sufficient room to turn an arch at the top, in a sloping or inclined direction downwards, and the partitions which divide the ascending from the descending flues are rounded at their lower ends, the effect of which will be found to be that the rush of water down the descending flues will cause a quick and powerful draft in the ascending flues, and that the fumes, gases, and smoke will be purified by mixing with, and being washed by, the water in their downward course, and the draft in the ascending flue will, at the same time, be so powerful that the partly purified smoke, gases, and fumes will rush up the ascending flues. *a* is the flue which comes from the fire, stove, or furnace to which the apparatus is applied; *b* is an ascending flue, leading to, and turning over, into the descending flue *c*, by a flue *d*; sloping down from the spring of the arch at the top of the flue *b*, above the flue *d*, is placed a water-box with a perforated plate at the bottom, *d*, through which the water in streams or showers passes down the flue *d*, and, mixing with the fumes, gases, and smoke, forces them downwards, and increase the draft in the ascending flue *b*, in consequence of the flue or passage *d* connecting the ascending flue *b*, with the descending flue *c* being sloped or inclined downward from the spring of the arch, at an angle, as is shown in the drawing. Around the inside of the descending flues are ledges or projections *e*, *f*, *g*, *h*, *i*, *j*, *k*, *l*, *m*, *n*, *o*, *p*, *q*, *r*, *s*, *t*, *u*, *v*, *w*, *x*, *y*, *z*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg*, *hh*, *ii*, *jj*, *kk*, *ll*, *mm*, *nn*, *oo*, *pp*, *qq*, *rr*, *ss*, *tt*, *uu*, *vv*, *ww*, *xx*, *yy*, *zz*, *aa*, *bb*, *cc*, *dd*, *ee*, *ff*, *gg</i*

PROCEEDINGS OF SCIENTIFIC BODIES.

GEOLOGICAL SOCIETY OF LONDON.

DEC. 14.—MR. MURCHISON, President, in the chair.

1. On the Ridges, Elevated Beaches, Inland Cliffs, and Boulder Formations of the Canadian Lakes and Valley of St. Lawrence. By Mr. LYELL, F.G.S.—Mr. Lyell's paper was concluded on the 4th January.

After advertising in his former paper, "On the Recession of the Falls of Niagara," and the observations which he made, jointly with Mr. Hall, in the autumn of 1841, Mr. Lyell gives an account of additional investigations made by him in June, 1842; they are horizontal, about forty feet thick, plentifully charged with shells of recent species, and are placed on the verge of the precipice overhanging the river; they are bounded on their inland side by a steep bank of boulder clay, which runs parallel to the course of the Niagara, marking the limit of the original channel of the river before the excavation of the great ravine. Another patch of sand, with fresh-water shells, was found on the opposite, or western, side of the river, where the Muddy Run flows in, about half a mile above the Whirlpool. From the position of these strata, it is inferred that the ancient bed of the river, somewhere below the Whirlpool, must have been 300 feet higher than the present bed, so as to form a barrier to that body of fresh water, in which the various beds of fluvial sand and gravel above mentioned were accumulated. This barrier was removed when the cataract cut its way back to a point further south. The author also remarks, that the manner in which the fresh-water beds of the Whirlpool and Goat Island come into immediate contact with the subjacent Silurian limestone, shows that the original valley of the Niagara was shaped out of limestone as well as drift; hence he concludes, that the rocks in the rapids, above the falls, had suffered great denudation while yet the falls were at or below the Whirlpool. Mr. Lyell thinks that the form of the ledge of rock at the Devil's Hole, and of the precipice which there projects and faces down the river, proves the falls to have been once at that point. An ancient gorge, filled with stratified drift, which breaks the continuity of the limestone on the left bank of the Niagara, at the Whirlpool, was found to be connected with the Valley of St. David's, about three miles to the north-west; this ancient valley appears to have been about two miles broad at one extremity, where it reaches the great escarpment of St. David's, and between 300 and 300 yards wide at the other end, or at the Whirlpool; its steep sides do not consist of single precipices, but of successive cliffs and ledges. After its denudation, the valley appears to have been submerged and filled up with sand, gravel, and boulder clay, 300 feet thick. The author passes to the general consideration of the boulder formation on the borders of Lakes Erie and Ontario, and in the Valley of St. Lawrence, as far down as Quebec. Marine shells were observed in this drift in several localities—at Montreal attaining a height, probably, exceeding 600 feet above the level of the sea. Similar shells were found as far south as the western and eastern shores of Lake Champlain; they are all northern species, and imply a former colder climate. Rocks, in contact with the drift, are smoothed and furrowed as beneath the drift in Northern Europe. The author next describes the ridges of sand and gravel surrounding the great lakes, and regarded by many as raised beaches. Those examined preserve a general parallelism to each other and to the neighbouring coast, and some of them have been traced for more than 100 miles continuously; they vary in height, and are often very narrow at their summit, and from 50 to 200 yards broad at their base. Cross stratification is very commonly visible in the sand; they usually rest on clay, of the boulder formation, and blocks of granite, and other rocks from the north are occasionally lodged upon them; they are steeper on the side towards the lakes, and they usually have swamps and ponds on their inland side; they are higher, for the most part, and of larger dimensions, than modern beaches. Mr. Lyell compares them all to the coasts in Sweden, and conceives that, like them, they are not simply beaches which have been thrown up by the waves above water, but that many of them have had their foundation in banks or bars of sand; they are supposed to have been formed and uprooted in succession, and to have become beaches as they emerged, and sometimes cliffs, undermined by the waves. The transverse and oblique ramifications of some ridges are referred to the meeting of different currents, and do not resemble simple beaches. The author concludes that most of the ridges were formed beneath the sea or on the margin of marine sounds, some of the less elevated ridges, however, may be of intrusive origin, and due to the oscillations in the level of the land since the great lakes existed; for unequal movements, analogous to those observed in Scandinavia, may have uplifted fresh-water strata above the barriers which divide Lake Michigan from the basin of the Mississippi, or Lake Erie from Ontario, or the waters of Ontario from the ocean. Considerable differences of level may have been produced in the ancient beds of these vast bodies of fresh water, while the modern deposit and the subjacent Silurian strata may, to the eye, appear perfectly horizontal. The author then endeavours to trace the series of changes which have taken place in the region of Lakes Erie and Ontario, referring, first, to a period of emergence, when lines of escarpment, like that of Queenstown, and valleys, like that of St. David's, were excavated; secondly, to a period of submergence, when those valleys, and when the cavities of the present lake basins, were wholly or partially filled up with the marine boulder formations; and, lastly, to the re-emergence of the land—during which rise the ridges before alluded to were produced, and the boulder formation partially denuded. He also endeavours to shew how, during this last upheaval, the different lakes may have been formed in succession, and that a channel of the sea must first have occupied the original valley of the Niagara, which was gradually converted into an estuary and then a river. The great falls, when they first displayed themselves near Queenstown, must have been of moderate height, and receded rapidly, because the limestone overlying the Niagara shale was of slight thickness at its northern termination. On the further retreat of the sea, a second fall would be established over lower beds of hard limestone, and a third fall would be caused over the edge of hard quartzite sandstone, which rests on the soft red marl seen at the base of the river cliff at Lewiston. These several falls would each recede further back than the other, in proportion to the greater lapse of time during which the higher rocks were exposed before the successive emergence of the lower ones. These falls of this kind are now seen descending a continuation of the same rocks on the Genesee River, at Rochester; their union, in the case of the Niagara, into a single fall, may have been brought about in the manner suggested by Mr. Hall, by the increasing retardation of the highest cataract, in proportion as the uppermost limestone thickened in its prolongation southwards, the lower falls meanwhile continuing to recede at an undiminished pace, having the same resistance to overcome as at first. Mr. Lyell considers the time occupied by the recession of the falls from the Whirlpool to be quite conjectural, but assigns a foot, rather than a yard, a year as the more probable estimate. Thus he shows the mastodon, found on the right bank near Goat Island, though associated with shells of recent species, to have claims to a very high antiquity, since it was buried in fluvial sediment before the falls had receded above the Whirlpool.

2. Notice on a Suite of Specimens of Ornithoidenites, or Footprints of Birds, on the New Red Sandstone of Connecticut, United States. By DR. MANTELL, F.G.S.

These specimens were accompanied by a letter from Dr. Deane, of Greenfield (Massachusetts), the original discoverer of these curious footmarks, of which more than thirty varieties have been found, mostly bearing a striking resemblance to the tracks of living birds; they are invariably those of a biped, and, in some instances, the progress of the animal may be followed over as many as ten successive steps. One example is fourteen inches in length.

3. A Letter was read from Mr. W. C. Redfield to Mr. Lyell, on newly discovered Ichthyolites in the New Red Sandstone of New Jersey, narrating his discovery of two distinct fish-beds, both containing remains of the genus *Palaeoniscus* in that formation, and also of ornithoidenites in the sandstone between the fish-beds.

4. A Letter was read from Mr. Charles Nicholson, accompanying a section of fossil bones found imbedded in the banks of the Brisbane River (New South Wales).

5. An Extract of a Letter was read from His Excellency George Grey, Governor of Adelaide, to Mr. Lyell, accompanying a section of the country between the eastern shore of St. Vincent's Gulf and Lake Alexandrina (New South Wales), and noticing some fossils obtained from that district.

INSTITUTION OF CIVIL ENGINEERS.

JAN. 17.—The annual general meeting of this society was held on Tuesday evening. The report of the council, although much shorter than usual, was quite to the purpose, and conveyed to the members a very satisfactory account of the proceedings of the institution, which have regularly appeared in the *Mining Journal* during the past year. The papers read appear to have been of an interesting nature, and the discussions upon them which ensued, have elicited many valuable facts, which are recorded in the published minutes of proceedings of the society. The increase of the number of members during a year of unexampled depression in the professions, as well as in all mercantile transactions, was extraordinary, and the financial affairs seemed, from the report of the auditors, to be satisfactory. The memoirs of the deceased members were read and eulogized, avoiding unsavoury eulogy, and yet alluding to the salient points in the characters of all who were mentioned. Telford medals were presented to Mr. Atkinson (Newcastle-on-Tyne), to Mr. Cotton (Governor of the Bank of England), to the Chelverton Canal (engineer of the railway from Amsterdam to the Hague), and to Mr. Wilkinson, for papers presented during the session. Telford and Walker premiums of books were also presented to Messrs. T. Cauchon, T. G. Hardie, C. Nixon, A. J. Adie, J. B. Birch, R. Richardson, J. Condie, C. Deans, A. Stephens, G. Ellis, and T. Chalmers, for communications and drawings sent to the society, and read at the meetings. The utility of these premiums, as encouragement for sending papers to scientific societies, cannot be doubted, and it gave us much pleasure to observe with what discretion they appeared to have been awarded.

The president (Mr. James Walker) addressed the meeting at some length upon points which could not, with propriety, be introduced into the official report of the council. He gave excellent reasons for the election of honorary members into the society, showing that scientific acquirements, or the patronage, which from their elevated position they were enabled to extend to engineering in its various branches, had been the only motives for their joining the institution. He gave a very interesting memoir of Mr. Ewart, the late inspector of steam machinery for the navy; it was replete with anecdotes, not only of the subject of the memoir, but of his contemporaries and friends—Watt, Boulton, Dalton, Henry, and other eminent men with whom he was intimate, or connected in business, before he entered the Government service, in which he appears to have acted with that considerate uprightness which ensured the respect and esteem of all with whom he came in contact. He thus alluded to the mem-

oir of Captain Hudgart, for which a medal had been presented to Mr. Cotton, who, amidst his onerous duties as Governor of the Bank of England, could find time to perpetuate the memory of his friend. Among the engineering works of this country, the Thames Tunnel, which has just been completed, was especially mentioned, and well-merited praise awarded to Sir Isambard Brunel for the skill and energy displayed by him in the various difficulties which he encountered during the progress of the work. Professor Wheatstone's ingenious application of electro-magnetism for various purposes, was also mentioned, and some interesting facts relative to it were given. A member mentioned an interesting fact, that when the roof of a public building, erected some years since, was considered by the public unsafe, Sir Robert Peel sent for some members of the Institution of Civil Engineers (the present president being one of them) and upon their report directed certain alterations to be made before the building was permitted to be used, and that this led to the society demanding and obtaining a Royal Charter, under which it now is constituted.—The ballot for the council took place, when the following gentlemen were elected:—Messrs. J. Walker (president), W. Cubitt, B. Donkin, J. Field, and H. R. Palmer (vice-presidents), W. T. Clark, G. Lowe, J. Macmillan, J. M. Rendel, G. Rennie, R. Sibbey, J. Simpson, J. Taylor, T. Wicksteed, J. Miller, F. Braithwaite, and W. Cubitt, other members and associates of council.

The following papers were announced to be read at the next meeting, February 7th, until which time the meeting was adjourned:—"On the Comparative Friction of Beam and Direct Action Engines," by W. Pole, A.I.C.E.—"Description of a Drawbridge at Bowescombe Creek, Devon," by G. C. Dobson, A.I.C.E.—"Description of the Roads over Buckingham Palace, covered with Lord Stanhope's Composition," by P. Hogg, A.I.C.E.

LONDON ELECTRICAL SOCIETY.—JAN. 17.

The following papers were read:—1. Assaying by Galvanism. By M. ROSEKR, F.R.S. Ed., M.E.S., &c.

This method has been practised many years ago; and it consists in using, for a positive plate of a galvanic pair, wet metal, which is next in the scale of affinity for oxygen, to the metal we wish to detect in a solution of a given ore.

2. Account of Dissection of a Second Gymnotus. By H. LETHBRIDGE, Esq., M.B., A.L.S.

This paper can be better understood when it appears in the *Proceedings*, accompanied by the series of plates with which it is illustrated.

3. Schonbein's New Battery, consisting of zinc and passive iron, or of active and passive iron, arranged and excited after the manner of Grove's Battery.

4. Report of the Action of Mr. Armstrong's Steam Electrical Apparatus. By L. BOSCAWEN IRVING, Esq., K.R.E., F.G.S., M.E.S., &c.

This is a machine for obtaining electricity by the conversion of water into steam; under circumstances most unfavourable, a spark, fifteen inches long, was obtained, and a Leyden jar, five inches diameter, and coated six and three-quarter inches, gave 120 spontaneous discharges in a minute.

5. The Disturbance of Electrical Equilibrium. By M. ROSEKR, Esq.

PROCEEDINGS OF PUBLIC COMPANIES.

LONDON AND BIRMINGHAM RAILWAY.

On Monday a special general meeting of the proprietors was held at the Euston Hotel, Euston-station, for the purpose of authorising the directors to apply to Parliament in the ensuing session to make a branch line from the Besswirth-station, in the county of Northampton, to the city of Peterborough. Mr. G. C. GLYN having taken the chair, dilated upon the eligibility of the proposed line, which would embrace in its route the towns of Northampton, Thrapston, Oundle, Peterborough, Boston, and Lynn, and a great part of the county of Lincoln. All the large landowners were in favour of the line, which would be forty-eight miles in extent, and cost, according to the engineering estimates, a sum of £500,000.—A series of resolutions was then passed to carry out the object of the meeting.

GREAT WESTERN RAILWAY.

A special meeting of the proprietors of this company took place at the company's offices, in Princes-street, Bath, on Thursday, the 19th instant, and was fully attended.—The chair was taken by CHARLES RUSSELL, Esq., who detailed the subjects mentioned in the report, which were partly that a communication should be opened between the Great Western line and Gloucester and Cheltenham, uniting at the latter place with the Birmingham and Gloucester Railway, the accomplishment of which was suggested, either by rating the proposed railway for a fixed term of years, so that the Cheltenham company might raise the sum necessary (£900,000), under a guarantee of interest being paid by the Great Western Company, or by a purchase of the existing railway between Swindon and Cirencester by the Great Western Company, so as to complete their whole line throughout to Cheltenham themselves.—Mr. STRANGE made a long speech in opposition to the plan of the directors, on the ground that they had sufficient work at present to look after their own railway and its branches, detailed accounts of the state of which were not yet presented to their proprietors, so that they might see their real position. He concluded by moving that neither plan be sanctioned by the proprietors, which was seconded by Major WAYTH.—After some remarks by Mr. Levi, Mr. Voudrey, Mr. Fry, and others, Mr. DUNN moved, as an amendment, that the report be adopted, which was seconded by Mr. BATLEY, when the question was adjourned, in order that a ballot might be taken in the interim, before the meeting on next Thursday.—A proposal was then submitted for making a branch railway from Didcot to Oxford, which the CHAIRMAN said would meet with scarcely any opposition, would be about nine and a half miles in length, and would cost only about £30,000.—The motion was passed unanimously, after which the meeting adjourned, the names present having been previously recorded.—The ballot will continue till next Thursday, when the chair will be taken at eleven o'clock.

LONDON AND BRIGHTON RAILWAY.

At a general meeting of shareholders, held in the Clarence-rooms, Liverpool, on Wednesday, the 18th instant, WILLIAM EARL, Esq., in the chair, on business (as stated in the advertisement) of the utmost importance to the proprietors, such discussion took place on the subject of the extension line to the west end of London, the want of confidence in the present board of directors, and the necessity of reducing the number from twenty-four to ten.—The meeting lasted several hours, and resolutions to the following effect were adopted:—"That the directors of the Brighton Railway do not enjoy that complete confidence of the company which is essential to the well-being of the concern." &c.—"That, under these circumstances, it is inexpedient to proceed in the present session with any bill for the extension of the line, but, in the bill for legalising the loan notes, that a clause be inserted to reduce the number of directors from twenty-four to ten, and that a new election of the whole board take place, at a meeting to be called immediately after the passing of the Act."—Several other resolutions were passed, to reduce the directors' salaries from £4000, to £3000, appointing a deputation of the Liverpool shareholders to wait on the board in London, and that copies of the whole proceedings be sent to Manchester, York, Leeds, Glasgow, &c.

CHELTENHAM AND GREAT WESTERN UNION RAILWAY.

A special general meeting of the shareholders in this company was held at the King's Head Inn, Cheltenham, on Tuesday, the 19th instant, R. SAGE, Esq., in the chair, for the purpose of considering a proposition for leasing the line from Kemble to Cheltenham to the Great Western Railway Company.—To effect this, the sum of £500,000, would have to be expended in the formation of two lines of rails of broad gauge on the Cheltenham Railway, between Gloucester and Cheltenham, and to reparation from the Birmingham and Gloucester Company the moiety of that railway.—Mr. BRUNEL (the engineer) explained how this sum would be appropriated, and, after some discussion, the proposition of the directors was adopted, a dividend of 5 per cent. per share for the past half-year was declared, thanks were voted to the chairman, and the meeting separated.

BIRMINGHAM AND GLOUCESTER RAILWAY.

At a special meeting, held at the Royal Hotel, Birmingham, on Tuesday, the 19th instant, Capt. MORROW in the chair, the following resolution was passed:—"That a committee of shareholders be now appointed, for the purpose of inquiring into the cost, expenditure, and management of the Birmingham and Gloucester Railway Company, from the period of its opening to the present time; and also for the purpose of inquiring into the rates of fares and freights charged, and proper to be charged, by the company for the carriage of passengers, and into its other resources of present and future income; and also to inquire and enquire as to the present and future transit of passengers and goods between Gloucester and Bristol, and between Worcester and Worcester, and as to the general management of the company's affairs;" and, on the motion of Mr. TAFFY (of Cheltenham), seconded by Mr. FRYER (of Bristol), a committee, consisting of four shareholders and three directors, was appointed.—A vote of thanks was passed to the chairman, and the meeting separated.

GLASGOW AND GREENOCK RAILWAY.

At the half-yearly meeting of the shareholders in this company, held at Greenock, on the 6th instant, R. D. KEE, Esq., in the chair, a division of £1,000,000, and a fraction on the fifth, was declared, and a balance of £400,000, £s. 8d. carried to the credit of the company.—The report stated, that the experiment of third-class fares on the through line had increased the receipts about 10 per cent.—A plan was recommended of establishing a system of steam-boats on the Clyde, in connection with the

railway.—The retiring directors were re-appointed, and thanks having been voted to the chairman, the meeting broke up.

ST. KATHARINE'S DOCKS.

The half-yearly general meeting of the proprietors of this establishment was held on Tuesday, the 17th inst., at the Dock House, St. Katharine's, for the purpose of declaring a dividend, and upon other affairs. The chair was taken by MR. THOMAS TOWN. The SECRETARY (Sir John Hall) having read the advertisement concerning the proprietors, the CHAIRMAN observed, that, according to the provisions of the Dock Act, the amounts of the receipts and expenditure for the year ending the 31st of December last, had been ascertainable to the proprietor during the previous fourteen days; and the meeting would have now to declare a dividend. From the accounts it would appear that the credit balance, brought forward on the 1st inst., was £10,000,000, £s. 10d.; and, after making suitable provision in advance for interest upon debentures, which will be payable in April next, and also for the payment of the dividend about to be declared, the net balance, or "rest," would amount to the sum of £6,335,000, £s. 8d.; being an increase as compared with the "rest" at the corresponding period in 1842—a result, considering the general depression of trade during the past year, of a satisfactory character. The quantity of goods landed in the St. Katharine's Dock in the year 1842, rather exceeded the tonnage of the preceding year, as would appear from the returns on the table, which also showed a slight increase in the tonnage of shipping that had entered the dock with cargoes during the like period. Those returns further showed a small increase in the number of British vessels, and registered tonnage that had entered the port of London during the last year, as compared with 1841, and a decrease during the like period in foreign ships, a falling off generally in the employment of shipping engaged in the foreign trade with the port of London during 1842, having taken place equal to about 22,000 tons. He (the chairman) then adverted in detail to the return of shipping that entered the port of London with cargoes from foreign ports during the last two years, which established the following result:

SHIPS.	TONS.	SHIPS.	TONS.	SHIPS.	TONS.
1841.	462	106,510	1842	510	134,210
1842.	476	106,800	1842	510	134,000

More .. 139 4,200 Less 377 18,379 Less 388 94,719

THE CHAIRMAN, after having briefly commented upon these returns, said it was the opinion of the court of directors that a dividend of 5 per cent. for the half-year, ending the 31st December last, should be declared, the company defraying the charge of the income tax. The recommendation was, after some few remarks relative to the affairs of the establishment, unanimously adopted, and thanks having been voted to the chairman, the deputy-chairman, and the rest of the directors, for the care and attention they have paid to promote the prosperity of the company, the meeting was adjourned.

PROVIDENT CLERKS' ASSOCIATION.

The second annual meeting of the board of management of this association was held at the offices, 60, King William-street, London-Bridge, on Monday evening, at which the chair was taken by GOUSSON THOMAS, Esq. (Secretary to the Imperial Brazilian Mining Association). From the report, which was of considerable length, it appeared that the society was making a steady progress among clerks, and that the gross number of members was 134, the average liability upon which was necessarily very small in comparison with the risks of all other offices. The annual income from premiums and dividends was £544, £s. 8d., and £50/- stock was purchased during the past year, making the total accumulation in the names of the trustees £600, stock, 3% per cent., in addition to the guarantee fund of £6000. Some members who had become distressed, had made applications to the benevolent department of this association, and their requests had been complied with. No death had occurred since the establishment of the institution, and the office expenses had been further reduced, the services of the board of management being, from the commencement, gratuitous.—The CHAIRMAN intimated that two of the trustees, W. G. PRENTICE, and LEONID N. DE ROTHSCHILD, Esq., attended at the offices on the 13th inst., to inspect the accounts for the past year, and learn the progress of the institution, on which occasion they most kindly suggested (which suggestion the managers will have the greatest pleasure in attending to) that as there was at present only one application for a position—viz., from the widow of a most respectable member, who had already had a gratuity presented to her, that the managers should ask the authority of the annual meeting on the 6th of February next to grant her a position, although her husband had only contributed two annual subscriptions.—Mr. William Mollett (of Messrs. Currie and Co.'s) was elected a manager, and Mr. J. W. Welsh, a member of the general committee, in place of Mr. Mollett.—A vote of thanks was unanimously passed to the trustees (Thomas Floring, Jeremiah Harman, W. G. Prentice, and Leonid N. de Rothschild, Esq.), and to John Abel Smith, Esq., M.P. (the treasurer), for their valuable and warm support to the association, and to their gratuitous services.—On thanks being voted to the chairman, deputy-chairman, and board of management, he (the chairman) said the institution only required the hearty co-operation of the members, in making its advantages known amongst clerks generally

THE MINING JOURNAL,

SMOKE NUISANCE.—ECONOMY OF FUEL WITHOUT THE NUISANCE FROM SMOKE.

—The principle of this furnace consists in the mode by which the air is introduced to the gaseous matter evolved from coal, whereby a more perfect combustion of the constituents is effected, the process being conducted on true chemical principles, as explained by Mr. Williams, in his *Treatise on the Combustion of Coal*. A furnace, constructed on this principle may, by permission, be daily seen in action at the Water-works, Seine-street, and Manchester Railway Station, Edge-hill, Liverpool.

For further information, apply to Birks and Co., agents, 3, Town-hall-buildings, Cross-street, Manchester.

CAUTION.—SMOKE PREVENTION.—MR. JOSEPH WILLIAMS.

STATEMENT OF BRICKS AND CO. (see the *Mining Journal*, the *Advertiser*, and other Liverpool papers), AGAINST THE IMPOSITIONS PRACTICED BY MR. JOSEPH WILLIAMS, of this town, who, bearing no patent of his own, has, under colour of applying the patent of Mr. Kurtz, been introducing MODIFICATIONS and INFRINGEMENTS of the PATENT of Mr. C. W. WILLIAMS, for the MODE OF INTRODUCING AIR TO FURNACES and the PREVENTION OF SMOKE.

In his late advertisement (see the *Mining Journal*, and the *Mercury* of the 21st December), Mr. Joseph Williams states as follows:—"That he is the acting proprietor of Kurtz's patent; and the fact, that the patent is the smoke consumer which he declares it to be, was acknowledged by Mr. Andrew Kurtz himself on board the *Urgent*." To this allegation Mr. C. Williams states, on the authority of Mr. Kurtz himself, that that gentleman was asked to go on board the *Urgent*, the object being, artificially, to convey an impression that Mr. Kurtz was connected with what was done to the furnaces of that vessel, and sanctioned the same; that Mr. Kurtz was then, for the first time, informed of what was done on board the *Urgent*, under Mr. Joseph Williams's directions, and of the apparatus behind the furnace bridges for regulating the size of the offices through which the air is admitted, and that he (Mr. Kurtz) at once disavowed the same, as not forming any part of his patent; that the plan adopted in the *Urgent*, as regards the situation of the fire-bars, was also subsequently altered—this departing still further from Mr. Kurtz's patent; and that, so far from the plan or apparatus so adopted by Mr. Joseph Williams being "acknowledged by Mr. Kurtz," such assertion is not only false, but directly the reverse of the fact.

It is hereby further stated, that the mode of admitting the air adopted by Mr. J. Williams, and by which he attempted to derive the Admiralty and the public, under pretence of its being the patent of Mr. Kurtz, is no way conformable to that patent, and that neither Mr. Joseph Williams, nor any one connected with him, has a patent for the same—such being a direct infringement of Mr. C. W. Williams's patent. —Liverpool, Jan. 7.

SMOKE NUISANCE.—MR. JOSEPH WILLIAMS, of 67, Beddoe-street, Twelth Park, near Liverpool, has the authority of Sir John Birks, Bart., the Secretary to the Admiralty, for announcing to the public, that the PATENT APPARATUS (Andrew Kurtz's patent) for the COMBUSTION of SMOKE and RAISING of COAL, attached to her Majesty's steam-packet *Urgent*, Liverpool, R.M., commander, after being in use for six months on the Post-office station between Liverpool and Dublin, is found to answer in every respect, and in the six months the saving of coal upon the *Urgent* has been about six tons, &c per hundred weight. The apparatus is simple in its construction, and is equally adapted for land and marine engines. The proprietors have hitherto proceeding their invention upon the public, until its merits could be ascertained by adequate trial. This it has undergone upon a large vessel plying in the Channel throughout the winter months, and they, therefore, now feel warranted in inviting the attention to it of all persons anxious for the removal of the nuisance of smoke from steam-engines. To those who are concerned in steam navigation it may not be unnecessary to mention, that, with this apparatus, a steam-vessel going before the wind has no occasion to open her furnace doors, or to alter her course in order to keep a look-out a-head—having no longer a cloud of smoke hanging over the bows, she can keep her course without slackening her speed.

Messrs. Birks and Co., the agents of Mr. C. W. Williams's patent, jealous of the advertiser's success, state that he has no patent, to which preposterous assertion he shall only reply, that he is the acting proprietor of Kurtz's patent, for his share in which he has paid pecuniary value, as is proved by documents in his possession, and which he has exhibited to the editors of the *Liverpool Mercury*; and the fact that the patent is the smoke consumer, which he declares it to be, was acknowledged by Mr. Kurtz himself, to Captain Emerson, Mr. Elliott, the engineer, and Mr. John Heselden, on board the *Urgent*, on the day that vessel first sailed, after the patent apparatus had been applied to it—namely, on the 4th December, 1841.

For terms and particulars application may be made to Mr. Joseph Williams, 67, Beddoe-street, Twelth Park, near Liverpool; to Mr. Wilson Heselden, Womble-street, Cheshire; to Mr. John Bowley, accountant, Brunswick-street, or to Messrs. Lavers, Robinson, and Bateman, solicitors, Liverpool.

—This is to certify that we have had the Patent Smoke-Consuming Apparatus of Joseph Williams and Co., 67, Beddoe-street, Twelth Park, in operation at the New Mills belonging to Duncans Gibb, Esq., for the last three months, and we consider it to be a very great saving (at least one third) in the consumption of coal, and the nuisance from smoke, which was so greatly complained of in the neighbourhood, is now completely removed.

The apparatus, which is upon the principle of hot air (of the superiority of which over cold air we are satisfied, from ample experience), is simple and easily constructed and kept in order, and we can strongly recommend it to any party who has a boiler in use.

THOMAS HALIBALL, Manager.
ROBERT SMITH, Fireman.
THOMAS MURPHY, Fireman.

Stansgate-street Patent New Mills, August 20, 1842.

DUNCAN GIBB."

I believe the above report to be correct.

TO PROPRIETORS OF MARINE, LOCOMOTIVE, AND FACTORY BOILERS.—FIFTY PER CENT. ECONOMY IN FUEL.

DESTRUCTION OF SMOKE—DOUBLE EFFECT OF THE BOILER.

BARON VON RATHEN'S PATENT APPARATUS—FIRE GRATE AND METALLIC FLUES FOR FEEDING WITH HOT-WATER.

Baron Von Rathen's Patent Fire-grate, already in use, during fifteen months, at the Hind-Park and Cotton Mills, had been in daily operation, for three months, at the Sugar Refinery of Messrs. Walwright and Gledhill, 2, Christian-street, Whitechapel, when a comparative experiment was made, under the inspection of Alexander Gordon, Esq., C.E., on the 20th, 21st of August, and 1st of September last, between the said Patent Fire-grate and the Common Furnace and Furnace-bars, fitted up to two boilers, in every respect alike. A report of that trial was published in several of the leading newspapers.

On the 20th and 21st December last, another course of experiments has taken place, the object of which was to see what quantity of water could be evaporated by a given weight of coal when the latter was fitted—ad only with the Patent Fire-grate—but also with the Patent Metallic Flues—and the result of both these experiments has been an evaporation, in twelve seconds, of 11 lbs. of water by 1 lb. weight of coal.

The advantages obtained by the use of the two apparatus, and not counteracted by any drawback, are as follows:—

- 1. Economy of fire-bars.
- 2. Saving of space.
- 3. Double generation of steam.
- 4. Increased safety and longer duration of the boiler.
- 5. No coking.

All these advantages are attested in certificates delivered by Mr. A. Gordon, C.E., and produced by Messrs. Walwright and Gledhill, the above mentioned sugar refiners.—These APPARATUS, having no mechanical contrivance whatever, can be APPLIED TO ANY STEAM-BOILER, whether Marine, Marine, or Locomotive, as also in SUGAR-FACTORIES, BREWERY, DISTILLERIES, &c.

Apply, for terms and conditions, to Baron Von Rathen's office, 24, Mountgate-street, City.—See 14.

WRIGHT'S PATENT DRAG.—The use of a drag to carriages

being admitted, parties wishing for safety and relief to their horses have now an opportunity of having one on the most improved principle, such as has never been offered to the public before, the carriage being skidded or released at pleasure by the persons driving, without leaving his seat or stopping the vehicle. All who are in the habit of driving must see the great benefit obtained from unskidding the wheel before reaching the bottom of a hill, so that, if accidented in so doing, the vehicle should not be impeded, whereby time is saved and the horses relieved from the dray, as well as the danger avoided in breaking the carriage, which must be done to save and other systems, to release the skid. An obvious saving is also effected, the great weight under all four wheels being when the skid is not required, yet cannot be released.—WRIGHT'S PATENT DRAG has now been on use for the last TWO YEARS, being FIXED to the "ROCKET" VINTNER COACH, travelling daily over one of the most billy roads in the Isle of Wight, the journey from Ryde to Yarmouth, horses never being performed in less time, by half an hour, than by the former mode of skidding, with much greater ease to the horses, and in the satisfaction of the proprietors, as shown by their testimonial. It can be applied without regard to the place, in case of accident, as may be accomplished by a child ten years of age.

Please see my warrant with the proprietors, company, or applying at the office of the proprietor, 10, Church-street, Bays, London.

TO THE PROPRIETOR OF WRIGHT'S PATENT DRAG.

Royal Pier Hotel, Ryde, July 21, 1842.

Mr.—Having had your drag in use on the Rocket coach, running daily from New-ports to this place and Yarmouth, and back, over one of the most billy roads in the Isle of Wight, during the last two seasons, we express our satisfaction in the proprietor, affording a great relief to the horses, and a saving of time, full half an hour, between Ryde and Yarmouth—a distance of thirteen miles, and that unassisted your drag, when known, will be generally adopted.

GEORGE BENDALL,
WILLIAM LAMBERT, Coachmen,
JAMES W. BETTINGHAM, Coachmen.

Please see my warrant with the proprietors, company, or applying at the office of the proprietor, 10, Church-street, Bays, London.—All costs pre-paid.

January 15.

CALEDONIAN AND CITY OF LONDON INFIRMIARY.

11, ALBEMARLE STREET.

For the definitive CURSUS OF STUDY, &c, &c, &c, to which the patient is liable off all fees, including, with 10 hours application, great inconveniences may be avoided. Cases of long duration require longer time in effecting the cure, but the result is always certain, and as soon as required. The only time of the kind in the United Kingdom.

Dr. Thomas, connected with the above institution, although daily, but is connected with advantage to most other diseases that affect the human frame. Patients are to be admitted at their residence, if required, to the distance of ten miles from London.—Shows of assistance from this to their friends.—Letters pre-paid, &c.

LONDON AND BIRMINGHAM RAILWAY.—Notice is hereby given, that the FEBRUARY HALF-YEARLY GENERAL MEETING of the court of proprietors of the London and Birmingham Railway Company will be held in London, at the Euston Station, on Friday, the 10th of February next, at Eleven o'clock in the forenoon.—The chair to be taken at Twelve o'clock precisely.

JOHN CARR GLYN, Chairman
JOSEPH F. LEDGAM, Deputy Chairman { of directors.

Office, Euston Station, Jan. 14. By order, R. CREED, Secretary.

LONDON AND GREENWICH RAILWAY COMPANY.—HALF-YEARLY GENERAL MEETING.—Notice is hereby given, that a HALF-YEARLY GENERAL MEETING of the proprietors of this company will be held at the London Tavern on Tuesday, the 21st January inst., at Twelve o'clock precisely.—The following gentlemen retire from the direction by rotation, agreeably to the Act of Parliament—viz., Josiah Wilson, Esq., A. K. Hutchins, Esq., and W. Hughes Hughes, Esq., but being eligible for re-election, offer themselves accordingly.—The Transfer Books will be closed on Monday, the 16th inst., and reopened on Wednesday, the 1st of February next.

By order of the board, J. Y. AKERMANN, Sec.

Office, 37, Canterbury-square, Southwark, Jan. 15.

BOLTON AND PRESTON RAILWAY COMPANY.—TENDERS FOR LOANS OR MORTGAGE.—The directors of this company are prepared, under powers of their Acts of Parliament, to RECEIVE TENDERS for the LOAN of MONEY, in sums of not less than £200, and for terms of three, five, seven, or ten years, and to GRANT MORTGAGES of the said undertaking, and of the rates, tolls, or monies arising therefrom, as securities for such loans, bearing interest at the rate of 5 per cent. per annum. INTEREST WARRANTS, for the whole term for which the loan shall be made, will be delivered to the lenders along with the mortgages, and be made payable half yearly, at the company's bankers in London, or Bolton, as may be preferred. The tenders are to express the sum and the term of years for which the same are proposed to be lent, and to be addressed to the secretary, at the company's office, Bolton.

By order of the board, PETER SINCLAIR, Secretary.

Bolton, August 30.

PETER SINCLAIR, Secretary.

N^o. 10, CHATHAM-PLACE, BLACKFRIARS, LONDON.

Established, January, 1819.

PRESIDENT—Sir JAMES RIVETT CARNAC, Bart., Rock Cliff, Lyngton.

VICE-PRESIDENT—GEORGE FORBES, Esq., 8, Fitzroy-square.

WITH TWELVE DIRECTORS.

FACILITIES are offered by this long-established society to suit the views and the means of every class of insurers. Premiums are received yearly, half-yearly, or quarterly—or upon an increasing or decreasing scale. The insured for life participates septennially in the profits realized. A liberal commission is allowed to solicitors in the country, who are authorized to report on the appearance of lives proposed for assurance.

HENRY DESBOROUGH, Secretary.

22, Cheapside, January 19.

EUROPEAN LIFE INSURANCE COMPANY.

No. 10, CHATHAM-PLACE, BLACKFRIARS, LONDON.

Established, January, 1819.

PRESIDENT—Sir JAMES RIVETT CARNAC, Bart., Rock Cliff, Lyngton.

VICE-PRESIDENT—GEORGE FORBES, Esq., 8, Fitzroy-square.

WITH TWELVE DIRECTORS.

FACILITIES are offered by this long-established society to suit the views and the means of every class of insurers. Premiums are received yearly, half-yearly, or quarterly—or upon an increasing or decreasing scale. The insured for life participates septennially in the profits realized. A liberal commission is allowed to solicitors in the country, who are authorized to report on the appearance of lives proposed for assurance.

DAVID FOGGO, Secretary.

N.B.—Agents are wanted in towns where none have yet appointed.

JOHN KING, Actuary.

NORTH BRITISH LIFE INSURANCE COMPANY.

4, NEW BANK-BUILDINGS, LOTHBURY, and 10, PALL-MALL EAST.

Established 1809—Protecting capital £1,000,000, fully subscribed.

HIS GRACE THE DUKE OF SUTHERLAND, President.

SIR PETER LAURIE, Alderman, Chairman of the London Board.

FRANCIS WARDEN, Esq., Vice-Chairman.

Extract from the Table of Increasing Premiums to insure £100 for life.

Ages.	First Year.	Second Year.	Third Year.	Fourth Year.	Fifth Year.	Remainder of Life.
30	£6.19 2	£6.19 2	£6.19 2	£6.19 2	£6.19 2	£6.19 2
32	1 3 9	1 3 9	1 3 9	1 3 9	1 3 9	1 3 9
40	1 11 10	1 11 10	1 11 10	1 11 10	1 11 10	1 11 10
42	2 4 9	2 4 9	2 4 9	2 4 9	2 4 9	2 4 9

Total premium £100 per year.

Charles Pritchett Bousfield, Esq.

John Brumby, Esq.

William Cash, Esq.

Thomas Castle, Esq.

James Crofts, Esq.

John Fetherston, Esq.

Joseph Hargrave, Esq.

Thomas Hodgkin, M.D.

MEDICAL DIRECTORS.

J. T. Conquest, M.D., F.L.S.

SOLICITORS—Messrs. Hardwick and Davison.

This institution completed the seventh year of its establishment on the 15th of December, 1842; and, in accordance with a rule made at its commencement, a careful valuation of its liabilities and assets has been made by an eminent actuary, for the purpose of making the first division of profits amongst its members, the gratifying result of which is exemplified in the following instances, showing the profit assigned to policies from one to seven years' standing.

JOHN KING, Actuary.

NATIONAL PROVIDENT INSTITUTION.

18, NICHOLAS-LANE, KING WILLIAM-STREET, LONDON.

FOR MUTUAL ASSURANCE ON LIVES, ENDOWMENTS, DEFERRED SUMS, IMMEDIATE AND DEFERRED ANNUITIES.

Enrolled under the Acts of Parliament relating to Friendly Societies.

DIRECTORS.

Robert Ingham, Esq.

Joseph Jackson, Esq.

Samuel Hayhurst Lucas, Esq.

Charles Lashington, Esq.

John St. Barbe, Esq.

Richard Sherriff, Esq.

Samuel Smith, Esq.

MEDICAL DIRECTORS.

J. T. Conquest, M.D., F.L.S.

Thomas Bevan, M.D., F.L.S.

This institution completed the seventh year of its establishment on the 15th of December, 1842; and, in accordance with a rule made at its commencement,

RAILWAY AND COMMERCIAL GAZETTE

BRITANNIA LIFE ASSURANCE COMPANY.

1, PRINCES-STREET, BANK, LONDON.
This institution is empowered by special Act of Parliament (4 Vict., cap. ix.), and is so constituted as to afford the benefits of life assurance, in their fullest extent, to policy-holders, and to present greater facilities and accommodation than are usually offered by other companies. The decided superiority of its plan, and its claim to public preference and support, have been proved uncontestedly, by its extraordinary and unprecedented success.

Assurances may either be effected by parties on their own lives, or by parties interested therein on the lives of others.

The effect of an assurance on a person's own life, is to create, at once, a property in reversion, which can by no other means be realised. Take, for instance, the case of a person at the age of thirty, who, by the payment of £1,000, ad. to the Britannia Life Assurance Company, can become at once possessed of a hypothecable property, amounting to £1,000, subject only to the condition of his continuing the same payment quarterly during the remainder of his life—a condition which may be fulfilled by the mere saving of eight shillings weekly in his expenditure. Thus, by the exertion of a very slight degree of economy—such, indeed, as can scarcely be felt as an inconvenience, he may at once realise a capital of £1,000, which he can bequeath, or dispose of, in any way he may think proper.

Detailed prospectuses, and every requisite information as to the mode of effecting assurances, may be obtained at the office.

PETER MORRISON, Resident Director.

A board of directors attend daily, at two o'clock, for the despatch of business.

To BE LET, FOR A LONG TERM, a LARGE PIECE OF GROUND, near Landore, along the navigable river, and adjoining the SWANSEA CANAL. It is situated IN THE MIDST OF THE COPPER WORKS, communicates with the canal and the river, and presents a most eligible site for the MANUFACTURE OF COPPER, SPELTER, OR OTHER METALS, OR FOR CHEMICAL WORKS. The proprietor of the land would undertake to supply coal for a long period, suitable for smelting purposes, upon terms more favourable than any of the present works on the river are now supplied.—Apply to Mr. B. Daniel, 5, Garden-street, Swansea.

LOOK TO YOUR GAS-METERS.—ROYAL ADELAIDE GALLERY, LOWTHER ARCADE, STRAND.—In consequence of the numerous facts which have been developed during the past few days, and in reference to this important subject, the LECTURE, on the FALLACIES OF GAS-METERS, will be CONTINUED, at this institution, on Saturday evenings, at half-past Nine o'clock, and the following Saturday evenings until further notice.

STEAM TO CORK, calling at PLYMOUTH and FALMOUTH.

—The ST. GEORGE STEAM-PACKET COMPANY'S splendid and powerful steam ship *SEVERN*, 400 tons and 270 horse power, Captain MOFFATT, will SAIL FROM OFF ST. KATHARINE'S DOCKS, for the ABOVE PORTS, on SATURDAY, the 28th inst., at EIGHT O'CLOCK in the morning.—Further particulars afforded on application at the Second Cabin, Regent Circus, Piccadilly; 16, Haymarket; or at the Steam-Packet Office, 187, Leadenhall-street.

* All heavy goods for shipment to be sent to the St. George Steam Wharf, Lower East Smithfield.

THE "HINDOSTAN" STEAM-SHIP AND H.M. FRIGATE "PENELope".—The two above-named grand steam-ships are entirely fitted with ANDREW SMITH'S PATENT WIRE ROPE for their Standing Rigging; thus demonstrating that practical experience is daily and progressively establishing its superiority over all other Standing Rigging. For all mining and other purposes it is already proved to be the best and most serviceable, description of rope, superseding hemp and chain.—For further particulars, address Mr. Andrew Smith, 7, White Lion-court, Cornhill, London.

Just published, Part I., COMBUSTION OF COAL, CHEMICALLY & PRACTICALLY CONSIDERED, with coloured plates.

By CHARLES WYE WILLIAMS, Esq.

London: Simpkin, Marshall, & Co., and J. Weale; Birmingham: Wrightson & Webb.

This day is published, with Maps, Plans, and Diagrams. £10. Price £10.

PRINCIPLES AND PRACTICE OF LAND, ENGINEERING, TRIGONOMETRICAL, SUBTERRANEAN, and MARINE SURVEYING.

BY C. BOURNES, C.E.

And Surveyor, Associate of the Institution of Civil Engineers.

London: John Ollivier, 10, Pall-mall.

LEYLL'S GEOLOGICAL WORKS.

Sixth Edition, revised, with 250 wood-cuts, plates, and maps, 3 vols. 12mo., 24s.

PRINCIPLES OF GEOLOGY; or the MODERN CHANGES of the EARTH and its INHABITANTS considered as ILLUSTRATIVE of GEOLOGY.

BY CHARLES LYELL, Esq., F.R.S.

Also, by the same author,

Second Edition, revised, with 400 wood-cuts, plates, and maps, 2 vols., 12mo., 18s.

ELEMENTS OF GEOLOGY; or a Description and Classification of ROCKS and FOSSILS, illustrating the ANCIENT CHANGES of the EARTH and its INHABITANTS.

John Murray, Albemarle-street.

MEETINGS OF SCIENTIFIC BODIES.

IN THE ENSUING WEEK.

SOCIETY.	PLACE OF MEETING.	DAY.	HOUR.
Royal Geographical	5, Waterloo-place	Monday	8½ p.m.
British Architects	16, Grosvenor-street	Monday	8 p.m.
Medical	Bolt-court, Fleet-street	Monday	8 p.m.
Entomological	17, Old Bond-street	Monday	8 p.m.
Royal Medical and Chir.	53, Berners-street	Tuesday	8½ p.m.
Zoological	57, Pall-mall	Tuesday	8 p.m.
Society of Arts	Adelphi	Wednesday	7½ p.m.
Medico Botanical	32, Backville-street	Wednesday	8 p.m.
Pharmaceutical	17, Bloomsbury-square	Wednesday	8 p.m.
Royal Antiquaries	Somerset House	Thursday	8 p.m.
R. Society of Literature	St. Martin's-place	Thursday	8 p.m.
Numerical Society	Somerset House	Thursday	8 p.m.
Royal Institution	Albemarle-street	Friday	8 p.m.
Royal Asiatic	14, Grafton-street	Saturday	8 p.m.
Royal Botanical	Regent's-park	Saturday	8 p.m.
Westminster Medical	Exeter Hall	Saturday	8 p.m.
Mathematical	Crispin-street, Spitalfields	Saturday	8 p.m.

PUBLIC COMPANIES.

MEETINGS.			
Union Bank of Australia	15, Old Broad-street	Jan. 22	1.
Great North of England Railway	21, Old Gate, Darlington	23	1.
Newcastle & North Shields R.R.Way	Office, Newcastle	24	12.
Reliance Mutual Life Assurance	23, King William-street	24	12.
Bristol and Gloucester R.R.Way	White Lion Inn, Bristol	25	12.
W. & D. Durbar R.R.Way	George and Vulture Tavern	25	12.
Hereford R.R.Way	Green Dragon Inn, Hereford	25	12.
United Mexican Mining Assoc.	London Tavern	25	1.
Duke of Cornwall's Harbour, &c.	London Tavern	26	12-1.
Llanelli Railway and Dock Co.	Office, St. Old Jewry	26	1.
Great Western Railway	Princes-street, Bank	26	11.
London and Greenwich R.R.Way	London Tavern	27	12-1.
Consolidated Copper Mines of Colorado, Austin-Brown	28	1.	
London and County Bank	21, Lombard-street	Feb. 2	12.
West Wheel Jewell Mining Ass'n, &c.	28, Threadneedle-street	2	12.
London and Birmingham Railway Eastern Station	19	11.	

CALLS.			
South-Eastern Railway	14, per share	Jan. 21.	As usual.

DIVIDENDS.			
Royal Santiago Mining Co.	£10. per share	18, Broad-street, buildings	18.
Tinctor Mining Company	10s. per share	4, Finsbury-square	27.
Natl. Loan Fund Life Assurance	5 per cent.	Offices	
Provincial Bank of Ireland	4 per cent.	Offices	
Wicklow Mining Company	52 per cent.	Offices	March 1.

NOTICES TO CORRESPONDENTS.

The MINING JOURNAL is regularly published about Two o'clock on Saturday afternoons, at the office, No. 26, FLEET STREET, where it can always be obtained, and there is no cause for irregularity in its supply, in fact, other than neglect on the part of the agent through whom it is ordered; but, as respects its transmission to country subscribers, the blame is shared with the Post-office authorities.

More extensive premises than those lately occupied being found necessary, the establishment of the MINING JOURNAL is REMOVED TO 26, FLEET-STREET (opposite St. Dunstan's Church).

STEAM POWER.—We have received a valuable paper, with illustrations, descriptive of Mr. James Sims's Improved Combined Cylinder Mensor-Engine, which will appear in our next.

FATHER BLACK VARNISH.—We have received the sample from Mr. Joseph Williams, which shall be tested on the earliest occasion, and the results given the next issue.

The reply of Mr. George Crane, to the communication of Mr. J. P. Budd, inserted in our last, will appear next week.

A Subscribers' will find the information he requires in the series of papers on the Iron Trade, by Harry Beresford, Esq., which appeared in the MINING JOURNAL two or three years back, and continued in later Numbers of the MINING JOURNAL.

SURVEYING SOCIETY.—The great care exercised in producing the engineering illustrations of Mr. Sims's Improved Engine, and other papers, which were intended to form a Supplement, accompanying our recent Number, has rendered a publication of its publication compulsory. With our next, however, a series of articles and communications of unusual interest, and scientific importance, will be presented.

Miners' Geological Association.—A Committee, Presidents—Argus—The Contingent of Mr. Shipton-Wallis's Basis to the Editor of the Civil Engineer—Mr. Taylor on Improved Method of Ventilating Mines—Editorial on the Management and Working of Collieries, &c., most, of course, stand over.

T. M.'s letter on the management of the Durham County Coal Company is for immediate use for our columns.

Received—A Letter—J. V. M.—M. W.—Lewin—A Fellow of the Geological Society.

THE MINING JOURNAL, Railway and Commercial Gazette.

LONDON, JANUARY 21, 1843.

* Parties desirous of ordering the *Mining Journal*, can do so, either direct to the office, or through any newsagent or bookseller in town or country. Notices of irregularity in its delivery are requested to be forwarded to the office, where every attention will be made to rectify the cause of complaint.

The correspondence which appears in our columns on the subject of iron, as to the superiority of its manufacture by hot or cold-blast, as well as that affecting the prevention or consumption of smoke, with other interesting matter, will at once plead an apology for the brevity of our remarks, beyond those appended to the several letters. We must, however, endeavour to find space for some trite observations on one or two points which, at the moment, are of exciting interest.

As relates to the question of anthracite iron, we have the letter of Mr. BUDD, and next week propose giving that of Mr. CRANE, until the receipt of which, it is perhaps more prudent that we should be silent; while the note appended to Mr. BUDD's letter will explain our views. The question between Messrs. GRAHAM, their engineers, and Mr. HARTOP, with the *anonymus*, might, we think, be brought to a close, without personalities being indulged in—by a reference or commission, as proposed by us, to test the merits of hot and cold-blast iron. Several parties came forward ready to advance such object, but, for reasons we can readily understand, others declined, if they did not openly object to, the test being applied. We hope, however, that whether a commission be appointed or not, that the MINING JOURNAL will, at least, have executed its mission—that of the advancement of science, by the promulgation of knowledge.

As respects the smoke question, we are glad to find the disputants brought to close quarters; they appear disposed to keep up the fire (which, we trust, will not end in smoke), and, as we have reason to believe that the object of one, at least, is not that of pecuniary gain, but the demonstration of a principle he has introduced or adopted. We trust, that in after correspondence, should such be necessary, personalities will be avoided; and that the end sought for, that of promoting the public good, while private advantages may be secured, will alone be displayed. On this subject, as on others, we defer making any comments, until space admits us to do so, but which, on the present occasion, we feel bound to devote to our correspondents.

We had hoped that the Talacre Coal and Iron Company, with its worthy projectors and their coadjutors, would have been allowed to pass unnoticed until after the present month, as we were given to understand that the civic aldermanic magisterial inquiry would take place on Saturday next, and, hence, our desire to avoid any further observation on the subject, with hopes (but fears) that the merits of the question would then be entered into. The proceedings in Dublin, as regards Mr. SHAW, who was entrapped into the fraudulent scheme, propounded by Mr. Alderman WOOD and others (a brief notice of which we embody in our remarks), and the several communications we have received, leave us, however, no other course than that of again drawing attention to the fraud, and which, we are told, it behoves us, moreover, to do, inasmuch that on the result of the meeting of Saturday next, depends much—not only as to the character of one of the aldermanic body, but, that which is of far more importance, the position in which the shareholders are placed—and from which they may, perchance, be relieved by the disclosures, which, on an investigation, must ensue. Willingly, most willingly, would we defer any observations we may have to offer, until the assembly of the Court of Aldermen; but when we find a gentleman of property, and highly respected in the sister isle, sacrificed by the shameful, we may say shameless, conduct of an alderman of the city of London, we feel that the law (which the "worthy" alderman should understand) is sadly misapplied where the culprit is freed, and the innocent made to suffer. From the following note of proceedings, it will be seen that, not only has Mr. SHAW been made bankrupt, because he was induced by Alderman WOOD, ex Deputy WERTON, JOHN DAVIS (of West Cork notoriety), and others, to be made a party to bills given for false consideration; but, upon the question being raised, in a court of law, whether HOWARD had given value for them (a very questionable point, we should say, were it not libellous), he (Mr. SHAW) is called upon to give security, or deposit 3000*l.* This is to render law valueless to the poor. We give the following as an outline of the proceedings:

"**I**N RE SHAW A BANKRUPT.—An application was made in this case to supersede the commissioners, or grant an issue to try the *bona fide* nature of certain securities, in the hands of Howard, the petitioning creditor.—The LORD CHANCELLOR said it appeared, from the statements, that Shaw was a trader in Dublin, and certain bills were passed by him in his dealings with the Talacre Company; before they became due, he sold his property, and went to Belgium. A man named LEVISON, a dentist in Cheltenham, concocted a fraud (by which many persons were defrauded)—viz., the Talacre Coal and Iron Company, by which he, with Mr. Alderman Thomas WOOD and others, prevailed on Shaw to give those bills, one for 3000*l.*, and the other 3941*l.*, at long dates. These bills were not a little suspicious, from the number of the acceptors, their large amounts, and length of dates. Howard was the holder of these bills when they became due; Levison, had his possession them, and did not have recovered, and the only way for Howard to do so, would be to prove himself a *bona fide* holder. His lordship alluded to the conveyance of the leasehold property in Cheltenham to Levison, subject to mortgages, and Howard's acceptance of the bills as purchase-money, without communication with the acceptors; and the draft of a deed of a recital of date, without reference to encumbrances, he should say was not a real transaction. The court was bound to believe there was something irregular, when these facts were kept in view; and to see that Howard was a *bona fide* holder, it was necessary to try the question in a court of law; but he could not allow any man to bring it before a jury, without paying the full amount into court.—The counsel for the bankrupt inquired whether security to the amount of 3000*l.* would be taken, assuming Mr. Shaw to be willing.—The LORD CHANCELLOR said the security must begin before the Master, and be equal to money. It was then arranged that security as above should be given, as also for the costs; that no issue should be directed to try whether Howard had obtained the notes for value, and without notice of the original transaction; the question to be tried the sittings after this term."

We have throughout maintained our position; and, what is more, we are enabled to do so to the full extent. We exposed the fraud on its first propagation. We have, further, through all its proceedings, brought before the public the attempt, and, unfortunately, in some cases, successful attempts, which have been practised to delude the public mind; and we feel pride, not only in referring to the past, but in recording the determination at which we have arrived as to our line of conduct for the future. Let the following paragraph suffice.

Having referred to the several communications received, as affects Ald. T. WOOD, and the proceedings of the Talacre Coal and Iron Co.; which, for reasons already assigned, we omit, we shall await the result of the next meeting of the aldermanic body, ere we offer any further remarks. It is, however, in closing our observations on the "adventure," only due to ourselves, after the many rebukes and observations made, as to our position with relation to the inquiry (*i.e.*), to state, that if the Court of Aldermen do not fairly investigate the matter, so as to clear Mr. Ald. THOMAS WOOD from the charges made against him, or allow us the opportunity of substantiating the statements made through our columns, we will most certainly bring the worthy alderman to the bar of public opinion, or that the one or other may be declared guilty of malversation, and, as we fear the result will prove, as affecting the alderman, that of fraud. Ald. WOOD says there is no prosecution. Will he accept our services? Our evidence is complete and ready.

DURHAM COUNTY COAL COMPANY.

We last week briefly adverted to the printed address of Mr. Matthias DUNN, late viewer of the Durham County Coal Company, in which he "rates" the board of directors as pretty round set terms, not only for having removed him from his office, but for general mismanagement and incapacity, the reply to which, signed by the chairman of directors will be found in our columns of the service of the company an officer whose further services were not required, or which,

Deakin, favour us with their experience in this matter? My own opinion is, that, in numerous cases, no dislocation has ever taken place, as affirmed by geologists—that such is the primary disposition of the sedimentary deposits, and I do think Mr. Deakin is right when he makes the like assertion with regard to the mine in which he has been working for this many years past. "T. H." speaks of the coal beds of Black Heath Mines, in Virginia State, North America; they rest, as he says, on gneiss rock, following the inequalities of the surface of the bed on which they rest, the seams appearing like steps, or notches, but they exhibit no accompanying marks of violence, every appearance favouring the idea of such being their primary disposition. The uniformity of appearance of the strata on each side of the fault is no proof of their having been once united, and, in numerous cases, there is very great dissimilarity.

CURIO.

Jan. 19.

ON THE FORMATION OF MINERAL VEINS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Your correspondent, "W. S.," thinks Mr. Budge and myself had better leave the speculating part of geology and mining alone—indeed, I have ever done so. I appeal to what I have said in the *Mining Journal* on the subject, and I will say, further, that all I have said in this matter is indisputable truth, and also that those truths are directly at variance with the speculating theories advanced by the schoolmen, from the first of them to the last. When I told "A Mining Captain" that the Blaenavon upthrust to the west ranged north, I intended it to mean true north. "W. S." says "the difference between two meridians in physical effects is a severe test of Mr. Hopkins's theory; had the line of dislocation been north-east, Deakin's upthrust would be on the eastern side." I am obliged to "W. S." because he has given me an opportunity of setting aside Mr. Hopkins's theory altogether. Now, Sir, the 255 feet upthrust to the west is not the only upthrust in Blaenavon Mines; there are four more—those are upthrusts to the east, opposite the place I write this; the west upthrust, and the one nearest to it, throwing up to the east, is 1000 yards apart. There are a pair of them running parallel with each other, only thirty yards apart, and each of them throwing up to the east thirty-three feet; the bearing of them is about sixteen west of north, so that, in a few miles to the north from this place, they go together. Now, what do you think of Mr. Hopkins's theory? this is no speculation; these are facts, which, as I have said before, are stubborn things. Mr. Editor, I would wish to answer any gentleman respectfully, and most especially any fellow of the Geological Society individually—at the same time, I must still say, that I have a poor opinion of them collectively. He does me the justice to say, that I have produced facts that are certainly against the idea of refitting the seams in the manner proposed by "A Workman." He says those dislocations, according to Mr. Hopkins's magnetical theory, have not been by vertical up and downthrows, but by a slow and imperceptible diagonal movement of masses to the northward; therefore (he continues to say), if there is a rise of 255 feet, there is an horizontal movement of at least 800 feet, to the north no doubt is his meaning. Now, if ever such a movement had taken place, and is still taking place, according to Mr. Hopkins's theory, surely, if such strange things as these are being in motion, the effects must have been noticed upon, as well as beneath, the earth. Some of the smaller upthrusts to the east have been crosses by ancient colliers as long as coal has been used—perhaps, 300 years ago—and the larger ones half a century, and whenever we meet with the old men's roads crossing those faults, they seem to be as they had ever been—that is, the roads on both sides of the fault, exactly opposite each other, which could not have been the case if there had been an horizontal movement going on to the north on one side the fault, and the other side stationary. He says, Mr. Hopkins informs us that the north and south lines are cleaved joints, but the east and west ones are fractures, and that I am wrong in stating that the east and west fault stopped the north and south one; the east and west crack has merely prevented the southern part from accompanying the uniform rising of the west side along the inclined plane northward. The inclined plane in the west side the north and south fault, northward, is not affected; it is at the angle of meeting of the north and south with the east and west fault. Beyond that angle of meeting of those two great faults, to the south, the north and south fault has never been seen; there is a small fault to be seen a few miles from the angle of meeting of the big faults on the same line of bearing as the east and west fault, and throwing down to the south as the big east and west fault does. I am asked the description and appearance of those faults. The north and south one I have crossed frequently, and, as I have told "A Mining Captain," the dislocation is about nine feet in width; that nine feet is mixed clunch, fire-clay, pieces of coal, rock, &c., both the sides generally smooth, not always so, in places rough and torn; if crossed in clunch and fire-clay, the sides are smooth; if crossed in rock, generally rough and uneven; where smooth it has a fine polish, grooved only where some stronger pieces from the sides have projected in the smooth part—the angle of the polish, of course, is the same as the dislocation itself, leaning over to the west about 2 in 100. He asks me, is Blaenavon coal cleaved?—it is. The gentleman that makes the inquiry says the east and west fault is a fracture. I will assure him it is not; it is a dislocation, and a very large one, but it is not so well examined and proved as is the north and south one, and there is a particular feature in it that opposes Mr. Hopkins's theory, and that is, its throwing down to the south some feet more than the north and south one throws up to the west.

THOMAS DEAKIN.

Blaenavon, Jan. 9.

IMPORTANT IMPROVEMENT IN HYDRAULIC MACHINERY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—For the benefit of all proprietors connected with mining operations, I beg to claim a place in your truly valuable Journal—the publicity of one of the largest and best constructed hydraulic machines yet erected. This gigantic machine is now working at the Alport Mine, near Bakewell, Derbyshire. Being in the neighbourhood, I felt anxious to pay it a visit, which is always readily granted by the proprietors and superintendents on the mine. The engine is a 50-inch diameter cylinder single acting, effective pressure per square inch on the piston about 60 lbs., length of stroke in the pump ten feet, plunger pole in the pit forty-two inches diameter, discharging at the pump head, when in full course of working, about 3600 gallons per minute. Here the visitor will stand wonder struck to see 600 gallons of water discharged by an hydraulic machine out of one pit in one-sixth of a minute. The magnitude, power, and quantity of water discharged, will be readily acknowledged by your numerous readers to be very great. Yet the man of science is tenfold more surprised when he looks at the beautiful arrangement the engineer has made to put this engine in motion. The man has effectually accomplished and surmounted the difficulties which has ever been the great evil to machines of this kind. It is well known that there is no expansion in this element while in the state of water, yet the engineer has found the most simple means to graduate the water at the extremity of the stroke, so as to cause not the least compression whatever. You are also aware, in the ordinary way, to work an engine of this kind and power, the valves must be loaded with a ruinous weight—in this engine the valves are constantly in equilibrium. They open with their own weight, and shut with their own gravity; the engine is doing now 75 per cent. duty, and I believe will do more. I understand from Mr. Darlington, who is the engineer for the Alport Mining Company, that the celebrated George Stephenson, Esq., civil engineer, recently examined this engine, for the purpose of reporting to a Welsh company the merits of this machine. Mr. Stephenson expressed his entire satisfaction; and, from Mr. Stephenson's report, the Welsh party have fully decided upon having one of the same-sized cylinder. I am glad to say that the merits of this machine in hands better capable of doing it justifying them, and there is now making, at the Museum of Economic Geology, London, a most splendid model of this engine; when the model is completed, it is more than probable that John Taylor, Esq., whose talents respecting machinery and general science will not be disputed, will read a paper before the Institution of Civil Engineers, fully elucidating the various parts of this engine, which then shall be generally known through the medium of your columns. It will, in my opinion, wherever there are facilities to work an engine of this kind, be universally adopted; certainly, there is much credit due to Mr. Darlington, who has been so fortunate as to construct an engine of this kind for the public use. It appears that Mr. Darlington, the inventor of this machine, does not intend to secure it by patent, but hopes that the advantages of the invention will ultimately become apparent, and all parties will see the benefit to be derived by adopting it—if, of course, he hopes to be remunerated for the use of his plan in some way or other. It must be obvious to every scientific man, whence water can be concentrated into one focus, and worked to that advantage as it is in this engine, most ultimately (unhurried from preparation) supersede all other hydraulic machinery.

A SCOTSMAN.

MR. JOSEPH WILLIAMS'S PRETENDED APPLICATION OF KURTZ'S PATENT.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—I have now before me your last Journal, containing the diagram supplied by Mr. Joseph Williams, purporting to be the mode of applying Kurtz's patent, as adopted by him, in the Admiralty steam-packet, the *Urgent*. Now, Sir, I assert that this diagram is very far, indeed, from giving a correct idea of what he has introduced into that vessel, and by which the alleged saving was effected—viz., 600 tons of fuel in thirteen months, or 111 voyages of 250 miles each—a saving of about 10 per cent. Again, this diagram not only conveys no idea of what Mr. Kurtz's patent really is (and which Mr. Joseph Williams professes it to be), but is, in fact, an entire departure from it. This diagram, in truth, is evidence of nothing but the matchless effrontry of this ignorant pretender, in palming it upon the Admiralty as a legitimate application of a patent, which it is not, and thus, under false pretences, endeavouring to extract a consideration for the privilege of using it in other vessels; he will, however, yet be found out. I have myself, in company with several others, examined this pretended application of Kurtz's patent to the *Urgent*, and here state the following facts:—1st. That it is essentially different from that described in your last Journal; 2d, that it is entirely different from the patent of Mr. Kurtz, as laid down in his enrolled specification—see *Newton's Journal*, February, 1842; and, 3d, that it is a direct carrying out of the principle embodied in my patent—viz., not the heating, but the dividing or distributing the air in flues or jets, on its admission to the furnace gases. That your readers may be enabled to judge for themselves on these points, I will furnish you with the requisite diagrams for your next publication, and of which I beg the insertion. You say, in conclusion—"We presume Mr. Joseph Williams, if not Mr. C. W. Williams, will notice this article in our next." You thus, apparently, would draw us both out. On my part, I accept your invitation, but, as to poor Joseph, this was an unkind, if not a wicked, sly hit on your part. It is probable, however, you have yet to learn, that, unfortunately for Joseph, the schoolmaster was not abroad in his schooling days, and that, as he himself observes, he is, therefore, "not a educated man." It appears, indeed, that, although his mother wit and low cunning have been assiduously cultivated, it was forgotten, that to teach him to read or write might have been useful. Far be it from me to utter this as a reproof to a man of his well known modest assurance. I merely mention it, *sud res*, as an apology for Joseph, and for his apparent neglect, should he avail himself of your inviting appeal. It is possible, however, that a reply to my last letter, and to my advertisement in your Journal, cautioning the public against his impositions, as regards Kurtz's patent, may appear, although not from his own pen, while any attempt to associate his plan with that of Kurtz's patent, must, under any circumstances, be abortive. Should such appear, I promise to reply, without regard to its real authorship, and as if it came from Joseph's own head and hand. In fact, unworthy and contemptible as he is, he shall be fully unmasked, either in your Journal, or by some other more searching means. I may here observe, that the assumption of Joseph Williams to the character of a man of science, and to a position in society which his assurance has not yet obtained for him, and which he has ignorantly promulgated in the expectation of making friends, is so notoriously false and well known in Liverpool and St. Helen's, that nothing short of putting you in possession of facts, from your evident want of knowledge of the party, would induce me to notice it. In thus exposing myself, I have only to refer, "in case of need," to Mr. André Kurtz, whose name has been so improperly mentioned by Mr. Joseph Williams, to satisfy you, or any of your readers, as to the character of the latter.

C. W. WILLIAMS.

Liverpool, Jan. 17.

[We defer making any observation on the letter of our correspondent until that promised appears—in the meanwhile, we may express a hope, that he will confine himself to matter of interest, and not to men, who, however they may have been neglected in their early days, and not be "educated" men, yet may possess talent and ability. We do not wish the remark to be considered as peculiarly applicable in the present instance, but the letter of Mr. Joseph Williams, inserted in another column, justifies us in the observation made, and which we feel our correspondent will duly appreciate.]

SMOKE PREVENTION.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Mr. Charles Wye Williams has again and again plumed himself, in the volumes of letters he has published in your very valuable Journal, upon his avoidance of all offensive language, and upon his observance towards his opponents of the utmost decorum, even when they had forgotten the conventional rules which are understood to govern gentlemen. If he had a right so to exult, it is to be regretted that in the conduct which he has thought fit to adopt towards me in print, he has offended against his own rules, and has forgotten what was due to himself, and to the Irish bar, of which he was once, if he is not now, a member.

In his letter of the 11th instant, published in your last Number, I am charged, not only with infringing upon his patent (for which, if true, he, as a barrister, must know that he has a remedy), but with "imposing upon the public"—with "a deception on the public"—with "having "palmed on the public" a departure from Mr. Kurtz's patent, the only merit of which is his (Mr. Charles Wye Williams's) plan—that I should not be "suffered to rob him of his fair claims"—and he adds, "The Admiralty have full permission to adopt my patent; I merely ask that they do not employ others to carry into execution, and under false pretences—which I have charge on Mr. Joseph Williams—that which fairly belongs to me."

Now, I submit, Sir, that language like this would scarcely have been justifiable if a jury of my countrymen had found me guilty of an infringement of Mr. C. W. Williams's patent, and I had, in defiance of their verdict, persisted in infringing upon it. How inexcusable, then, it must appear to you, and to your intelligent readers, when not only has no such legal right been established, but none has been asserted by Mr. C. W. Williams, in any legal proceeding; and when, at the very time, from your own observation (and of this Mr. C. W. Williams was aware, for he has quoted it), you stated that "so minute are the different modes adopted, that it is hard to say who is the inventor, and who is the infringer?" I will not, however, descend to the use of retaliatory language; I will content myself with the simple, but distinct, denial that I have infringed upon Mr. Charles Wye Williams's patent, in any part of the apparatus affixed to her Majesty's packet, the *Urgent*; and I invite him to try the fact before a Liverpool jury, at the next assizes. If he accepts my invitation, of course further discussion in your columns, on either side, would be out of place; if, on the other hand, he should not accept it, it can only be for one reason—viz., that he has made rash and unfounded assertions, which he dare not, and cannot, maintain; and, in such case, Mr. C. W. Williams will not be worthy of any further notice from yours, respectively.

Bedford street, Fleet-street, Jan. 18.

JOSEPH WILLIAMS.

P.S.—In the leading article of your last paper you say, as to Mr. Crane's patent, "It is a duty, we think, which Mr. Crane owes, not only to himself, but to all patentees, and to the public, to enforce his rights," and in this sentiment I fully agree.

J. W.

[We trust that Mr. C. W. Williams will bring the question into a court of law for infringement of patent, or that Mr. Joseph Williams will take the verdict of a jury on the question of law. If, however, both entertain the same opinion we hold of law and lawyers, we should say, the less they have to do with the one or the other the better. Mr. C. W. Williams, in a letter to our present Number, states his intention of publishing next week a letter, with diagrams, explanatory of the distinction between the respective patents, and pointing out the infringements more clearly. We await such communication as we may have, for we are bound, to justice to both parties, to afford further evidence, with explanations, as to our respective rights with one another—while it will be most pleasing to ourselves that this discussion should be brought to a close.]

SMOKE PREVENTION.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Having taken a great deal of interest in the discussion of the smoke-concealing question, in your Journal, I was very much struck with the importance of the short statement in a letter signed "A Londoner," in your Journal of the 7th, and, indeed, they appear to me to contain the whole of the merits of the case, as between Mr. C. W. Wye Williams and Mr. Samuel Hall, and I must say, I was much surprised that the former gentleman has not taken the slightest notice of them in his letter of the 11th instant, published in your last week's Journal. Your insertion of this letter, in order that so condensed a view of the subject may not be passed over without notice, will oblige.

Birmingham, Jan. 18.

[Mr. Samuel Hall having retired from the field of controversy, we are not surprised that Mr. C. W. Williams should have passed by unnoticed, the letter of an anonymous correspondent. We must again repeat, that, except

under peculiar circumstances, the further discussion of this question must be between parties who are not ashamed of their names being attached to their communications.]

DURHAM COUNTY COAL COMPANY.

Sir,—After all the crimination and recrimination which took place at the meetings of this company two years ago, I did hope we should have had peace, and we, unfortunate shareholders, might expect some dividend; but I am sorry to find, by your last week's paper, and from a circular I have received from Mr. M. Dunn, the discharged viewer of the company, that things are just as bad, if not worse, than ever. The conduct of Messrs. Stokes and Andrews towards Mr. Dunn does appear to me most unaccountable, and I have no doubt will bring upon them the condemnation of all the shareholders. I always thought, from the first time I attended the meetings, that these men, Stokes and Andrews, acted towards certain individuals, who seemed, from some reason or other, to be obnoxious to them, very unorthodox, and I am, therefore, the less surprised at their conduct in this instance. It was entirely by their conduct towards Mr. T. C. Gibson, of Newcastle, that the company was deprived of that gentleman's able assistance in the management of the company's complicated concerns, by their attempt to mix him up with the A.'s and the B.'s in the getting up of this notorious concern, when, in fact, it was clear to any man of common sense who attended the meetings, that he was not even a shareholder for nearly two years after the company was formed, and had only been induced into it, as many more were, by the fallacious and dishonest valuations of the viewers, without whose aid it would have been impossible for all the A.'s and B.'s together to have succeeded, as sure I am, no one would have gone into it on the recommendation of men of the description of the A.'s and B.'s. Mr. Gibson was at the time, and, I believe, is still, the largest shareholder in the company; and, from all that I can learn of the character of that gentleman, and I have given myself some trouble to do it, I have come to this opinion—that if the directors, three years ago, had let him have his own way, and followed his advice, the affairs of the company would have been in a very different state from what they are in at present. What has vexed me most of late is, that this very Stokes, I find, was one of the originators of the company himself, and, as to his fitness for the office of manager of the company, it is absurd; and, as to Mr. Andrews, if Mr. Dunn proves his statements at the ensuing meeting, he will not be able to play the great man any longer in this quarter. And now, Mr. Editor, in conclusion, all I wish is, that the shareholders, at the next meeting, which will be a stormy one, will not suffer themselves to be led by the nose by any party, but act upon their own judgment. My opinion is, that if the company has lost money the current half-year, we must insist upon its being broken up, and the property sold to pay the debts, or depend upon it we shall have another call to pay upon our shares. I do not know what is the amount of the debt the company is in, but, from what I can learn, I think the property of the company would sell for as much as would pay it off, and give the shareholders 3d. or 4d. a share besides, if properly managed.

Richmond, Jan. 18.

A SHAREHOLDER.

[Some remarks on the questions raised by Mr. Dunn will be found in another column. We are not sufficiently "far north" to be in possession of information beyond that rendered by correspondents, and, therefore, are precluded from offering any observations, except as affects the articles which appear in the Journal. We regret to find that fresh frauds and dissections have arisen, and think that the sooner the concern is brought to a close, or the affairs put into "good hands," where no jealousy exists (whether directors or viewers), the better.]

THE INEFFICIENCY OF WOOD PAVEMENTS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Having watched, with some degree of interest, the progress which has of late years been made in paving our streets with wood, I am pleased to see that at length the public are aroused to a due consideration of the terrible state in which those of our thoroughfares are placed which have been "improved," as it is erroneously called, by the innovation of wood paving. Glad, indeed, was I to find that Sir Peter Laurie had taken upon himself the task of directing the attention of the Court of Aldermen to the subject; and much credit is due to him, as well as to Alderman Copeland, and other members of the court, for the spirited and determined manner in which they met the question. That wood paving does not realize the advantages at first held out is evident; however firm and solid the work, in the first instance, may have appeared, after eighteen months' or two years' wear, in conjunction with the effects of the water, which percolates through the joints, and, remaining on the subsoil, the lower part of the wood becomes rotten, and causes the pavement to sink in some places, thus forming inequalities in the road of a most unpleasant and dangerous nature; even in its best state, there are so many objections to wood paving, that its immediate rejection is imperatively called for. Sir Peter Laurie, Alderman Copeland, and a host of gentlemen, who are in the habit of driving through the streets of London, bear such indisputable testimony to the dangers inseparable from the plan of paving with wood, that it is to be hoped that parliamentary interference may be safely calculated upon. The fact is undoubted that since the very general adoption of wood paving, street accidents have increased at least one-third, and several cases have occurred of drivers of omnibuses and carts being acquitted on trial for running over parties, it having been proved that it was impossible to exercise any control over horses on such a perilous surface. In the United States, it is now generally considered a decided failure; so much so, that in New York, Philadelphia, &c., considerable surfaces are being removed, and superseded by blocks of granite, and, in some instances, streets are re-paved with the old water-worn pebbles. The one great advantage of wood paving—that of preventing noise—I contend experience has proved does not counterbalance its various, and now generally acknowledged, disadvantages, and I cannot help thinking the time is not far distant when our best description of granite paving will again be brought into general use; indeed, it is to be hoped such will be the case, if only for the sake of the horses, for what they now suffer, while trampling over wood pavements, is a disgrace to humanity.

W. G. M.

Merton-terrace, Regent's park, Jan. 18.

[As our correspondent has authenticated his letter, we feel called upon to give it insertion; at the same time, it must be understood, we do not go quite so far in reprehension of wood paving. We are aware of many of its serious evils; but improvements may yet be made—indeed, a very excellent one has already been suggested in our columns—by which a foothold for the horse, as well as a safe landing and even surface, may be secured. We recommend our correspondent to prima facie communicate on this subject, by Mr. Finch and others, which appeared in our columns some time since, as well as the advertisement in our present Number.]

KELLEWERRIS MINING COMPANY.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—Whatever your correspondent's motives may be for inquiring if any dividend was made by the Kellewerris Mining Company, is best known to himself, but I have no doubt it is to know the directors in the estimation of the public. However, I can assure him that there was a dividend paid, at the rate of 10 per cent. on the paid-up capital, and paid to every shareholder in November, 1836, as the books to this day will testify.

A. H.

Richmond, Jan. 17.

[We believe our correspondent is studying the art of "blasting." The directors, we believe, are already too far interested in public estimation to demand further, while the dividend paid, at 10 per cent., should have been paid to be cut off, and cut off, "the paid-up capital."] A. H.

BLAST-ENGINEERS.

TO THE EDITOR OF THE MINING JOURNAL.

Sir,—In the last *Mining Journal*, a Mr. Ferrier, of the Clyde Iron-Works, wishes to know the cause of the variation in the measured gauge in the different blast pipes leading from the same engine, and blowing three furnaces on the one side and one on the other. At the works where I am engaged we are similarly situated. Our furnaces are the same size, making use of the same material; the size of the blast pipe leading from the engine to the three furnaces is thirty inches in diameter, and the diameter of the leading pipe to the single furnace is eighteen inches diameter; our tuyeres are the same size. I have applied the measured gauge at the tuyeres of every furnace; I cannot find any variation whatever. Will Mr. Ferrier be kind enough to give a detailed description of the respective blast pipes leading to the furnaces, and the number of tuyeres, if any, in each main? It will give me a clear and ready answer to his query. We have not yet

